

## ABSTRACT OF THE DISCLOSURE

An electromagnetic field intensity calculation apparatus calculates a virtual current vector from a voltage vector and a mutual immittance matrix of an object including a wave source where a wave source power is applied. The voltage vector and the mutual immittance use a wave voltage of the wave source as a unit voltage. The apparatus also calculates an input impedance of the wave source based on a virtual wave source current of the virtual current vector and a unit voltage of the wave source, and calculates the wave source voltage based on the input impedance and the wave source power. The apparatus further calculates a current vector based on the wave source voltage calculated and the virtual current vector, and calculates an electromagnetic field intensity around the wave source which is determined based on the current vector.

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